Amendments to the Specification (other than claims):

Please replace paragraph [0037] with the following amended paragraph:

[0037] The figure is a graph plotting the results of measuring residual metal atom density ($\times 10^{10}$ atoms/cm^2) on a GaN substrate surface, and the photoluminescence produced by growing epitaxially onto the substrate a GaN layer of 2 μm thickness and an InGaN layer of 0.2 μm thickness, and bombarding the substrate with a 325 nm laser beam from a HeCd laser. The horizontal axis is the metal atom density, and the vertical axis is the photoluminescence intensity (arbitrary scale graduations). The photoluminescence desirably is of [[2.0]] 2000 scale graduations or more, which corresponds to a metal atom density of 100×10^{10} atoms/cm^2.

Please replace paragraph [0116] with the following amended paragraph:

[0116] [[*B3.*]] *B4. Alkali wash*: The GaN crystal substrate was immersed in an NH_4OH aqueous solution heated to 45°C and adjusted to pH = 11 to 12, was indirectly sonicated with ultrasound waves at a frequency of 990 kHz, and, with the washing solution being passed through a recirculating filter, was washed 3 minutes. The GaN substrate was then overflow-rinsed in ultrapure water.

Please replace paragraph [0117] with the following amended paragraph:

[0117] [[*B4.*]] *B5. Organic wash*: The beaker containing isopropyl alcohol was put into a 50°C water bath, and the GaN substrate was put into the washing solution and

two cycles of the 5-minute wash were carried out. Thereafter, the GaN substrate was taken out and dried at 82°C in the isopropyl alcohol vapor dryer.

Table IV

Exp. Ex. 1	Exp. Ex. 2	Exp. Ex. 3	Exp. Ex. 4	Exp. Ex. 5
Dry etch	Dry etch	Dry etch	Dry etch	Dry etch
Organic wash	Organic wash	Organic wash	Organic wash	Organic wash
	KOH wash	dHF wash	$HF + H_2O_2$	$HF + H_2O_2$
	Organic wash	KOH wash	NH_4OH	$H_2SO_4 + H_2O_2$
		Organic wash	Organic wash	NH_4OH
				Organic wash

Please replace paragraph [0134] with the following amended paragraph:

[0134] Given the circumstances, then, a GaN layer was deposited to a 2 μm layer thickness onto the undoped GaN substrates, and onto that a [[0.2 μm]] <u>0.1 μm</u> layer of InGaN was deposited, and the photoluminescence of the InGaN layer was examined.

Please replace paragraph [0135] with the following amended paragraph:

[0135] Light from a He – Cd laser generating a 325-nm ultraviolet beam was directed onto the samples, and the intensity of the light (photoluminescence) emerging from the samples was detected with a photomultiplier. The luminous energy in its entirety was measured without splitting the light. Because the samples were illuminated with the 325-nm ultraviolet beam, which possesses energy greater than the bandgap, InGaN electrons in the valence band were excited into the conduction band, and the excited electrons on returning to the [[conduction]] <u>valence</u>

band emitted light. This is the photoluminescence, and is utilized in instances such as to investigate the characteristics of film properties, since electron-hole pairs can be created and light emitted even without a *p-n* junction having been formed.

Please ***replace*** the pending abstract with the following abstract of the disclosure:

ABSTRACT

When a nitride semiconductor monocrystalline wafer is polished, a process-transformed layer is produced. Etching is required in order to remove the process-transformed layer. Being that nitride semiconductor materials are chemically inert, however, suitable etching does not exist. Although potassium hydroxide, for example, or sulfuric acid have been proposed as GaN etchants, their corrosively remove material from the Ga face is weak. Dry etching utilizing a halogen plasma is carried out in order to remove the process-transformed layer. The Ga face can be etched off with the halogen plasma. Nevertheless, owing to the dry etching, a problem arises again—surface contamination due to metal particles. To address the problem, wet etching with, as the etchant, solutions such as HF + H2O2, H2SO4 + H2O2, HCl + H2O2, or HNO3, which have no selectivity, have etching ability, and have an oxidation-reduction potential of 1.2 V or more, is performed.